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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/507,423	02/18/2000	Melvin A. Park	140-033	8987

7590 06/05/2002
Ward & Olivo
708 Third Avenue
New York, NY 10017

EXAMINER

QUASH, ANTHONY G

ART UNIT	PAPER NUMBER
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2881

DATE MAILED: 06/05/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/507,423

Applicant(s)

MELVIN A. PARK

Examiner

Anthony Quash

Art Unit

2881

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 March 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4, and 15, are rejected under 35 U.S.C. 103(a) as being unpatentable over Karger [112] in view of Ikebe [JP 488]. As per claim 1, Karger [112] teaches an apparatus for transporting ions from a first pressure region to a second pressure region within a mass spectrometer, wherein the apparatus comprises; first and second capillary sections (24, 32), each having an inlet and an outlet end; and a union (34) wherein the outlet end of the first capillary section is positioned within said first opening of the union, and wherein the inlet section of the second capillary section is positioned within the second opening of the union. See Karger [112] fig. 5, abstract, col. 1 lines 30-45, col. 7 lines 5-15, 35-45, 60-67, col. 8 lines 1-5, and col. 12 lines 55-67.

However, Karger [112] does not specifically state that the first and second capillary sections are removably positioned in the union. Ikebe [JP 488] does teach first and second capillary sections being removably positioned in a union. See Ikebe [JP 488] abstract and figs. 1-5. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to have the first and second sections of a capillary removably positioned within a union in order to allow one to replace dirty capillaries without lowering the vacuum of the entire mass spectrometer as taught in Ikebe [JP 488].

As per claim 2, Karger [112] in view of Ikebe [JP 488] teach all aspects of the claim except for the first section comprising a channel having a helical structure. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have the first section be comprised of a channel having a helical structure in order to aid in heat dissipation and aid in the preventing contaminants from reaching the vacuum chamber.

As per claim 3, Ikebe [JP 488] teaches the union comprising means for removably securing the ends of the first and second sections. See Ikebe [JP 488] abstract and figs. 1-5.

As per claim 4, Ikebe [JP 488] teaches the union comprising means for providing an airtight seal between the ends of the first and second sections within the union. See Ikebe [JP 488] abstract and figs. 1-5. Also see Krager [112] fig. 5.

As per claim 15, Krager [112] teaches that apparatus is used to multiplex sample materials. See Krager [112] col. 3 lines 1-15 and col. 18 lines 25-45.

Claims 1,5-6,8, are rejected under 35 U.S.C. 103(a) as being unpatentable over Bertsch [275] in view of Ikebe [JP 488]. As per claim 1, Bertsch [275] teaches an apparatus for transporting ions from a first pressure region to a second pressure region within a mass spectrometer, wherein the apparatus comprises first and second capillary sections (55,59) each having an inlet end and an outlet end and a union (60) having first and second openings wherein the outlet end of the first capillary section is positioned within the first opening of the union (60) and the wherein the inlet of the second capillary section is positioned within the second opening of the union (60). However Bertsch

[275] does not specifically state that the capillary sections are removably positioned with the union. See Bertsch [275] abstract, figs. 2,5, col. 1 lines 10-21, col. 4 lines 4-22 and col. 5 lines 30-67. Ikebe [JP 488] does teach the capillary sections being removably positioned with the union. See Ikebe [JP 488] abstract and figs. 1-5. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to have the first and second sections of a capillary removably positioned within a union in order to allow one to replace dirty capillaries without lowering the vacuum of the entire mass spectrometer as taught in Ikebe [JP 488].

As per claim 5, Bertsch [275] teaches the inlet ends and outlet ends comprising conductive end caps. See Bertsch [275] col. 4 lines 4-22 and col. 5 lines 30-65.

As per claim 6, Bertsch [275] does teach the ions being transported from the ionization source to into a first vacuum region of a mass spectrometer. See Bertsch [275] abstract, figs. 1-2,5, col. 1 lines 10-21, col. 4 lines 4-22 and col. 5 lines 30-67.

As per claim 8, Bertsch [275] teaches ionization source being an ESI device. See Bertsch [275] abstract, figs. 1-2,5, col. 1 lines 10-21, col. 4 lines 4-22 and col. 5 lines 30-67.

Claims 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bertsch [275] in view of Ikebe [JP 488] and further in view of Karger [112]. As per claim 12, Bertsch [275] teaches that the capillaries may be used as an interface between other ion sources. See Bertsch [275] col. 4 lines 5-20. However, Bertsch [275] does not specifically state that ion source be a matrix assisted laser desorption ionization source.

Karger [112] does teach using capillaries with a matrix-assisted laser desorption ionization source. See Karger [112] fig. 1, abstract, and col. 2 lines 55-67.

Claims 7, and 9-11,13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bertsch [275] in view of Ikebe [JP 488] and further in view of Mordehai [892]. As per claim 7, Bertsch [275] teaches that the capillaries may be used as an interface between other ion sources. See Bertsch [275] col. 4 lines 5-20. However, Bertsch [275] does not specifically state that ion source be an API source. Mordehai [892] does teach an API source using capillaries. See Mordehai [892] figs. 1, 11 and abstract. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use an API source with the capillary interface in Bertsch [275] since it was known to use API sources with capillaries to transport ions into a mass spectrometer.

As per claim 9, Mordehai [892] teaches the ionization source being a pneumatic assisted electrospray source. See Mordehai [892] col. 13 lines 15-30

As per claim 10, Mordehai [892] teaches the ionization source being an electron impact source. See Mordehai [892] col. 1 lines 10-50.

As per claim 11, Mordehai [892] teaches the ionization source being a chemical ionization source. See Mordehai [892] col. 1 lines 10-50.

As per claim 13, Bertsch [275] teaches that the device can be used with other ion sources such as a plasma desorption source. See Bertsch [275] col. 4 lines 5-21.

As per claim 14, Mordehai [892] teaches the ionization source being a liquid chromatography source. See Mordehai [892] col. 1 lines 10-50.

Response to Arguments

Applicant's arguments with respect to claims 1-15 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion


The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent 5,965,883 to Lee et al. Lee [883] is considered pertinent to the applicant's disclosure because of its teaching on a capillary for electrospray ion source.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony Quash whose telephone number is (703)-308-6555. The examiner can normally be reached on M-F from 9 a.m. to 5 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John R. Lee, can be reached on (703)-308-4116. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)-308-0956.



A. Quash 6/1/02



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